AMENDMENT NO. 2 MAY 2020

TO

IS 14164 : 2008 INDUSTRIAL APPLICATION AND FINISHINGS OF THERMAL INSULATION MATERIALS AT TEMPERATURES ABOVE –80°C AND UP TO 750°C — CODE OF PRACTICE

(First Revision)

(*Page* 16, *clause* **6.2.4**) — Insert the following new clauses:

‘**6.2.5** *Finishing Cement*

The finishing cements shall have a minimum thickness of 10 mm or as specified and shall be reinforced with wire netting of maximum 20 mm mesh and minimum 0.56 mm wire diameter or equivalent metal lath.

6.2.6 *Bituminous Mastics*

Minimum of 3 mm dry thickness, inclusive of the reinforcement, with suitable reinforcement where necessary.

6.2.7 *Roofing Felt*

Self finish, conforming to Type 3, Grade 1 of IS 1322.

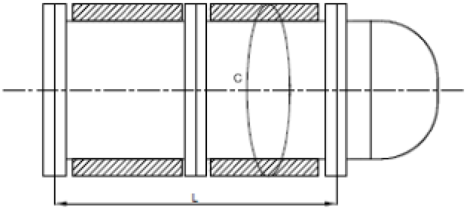
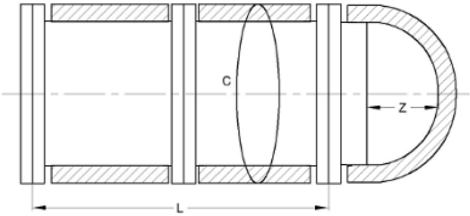
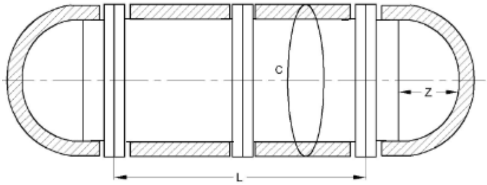
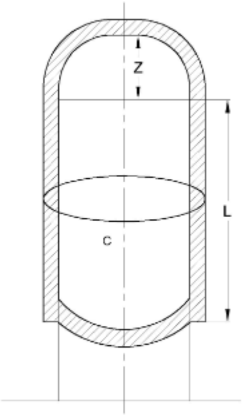
6.2.8 *Other Finishes*

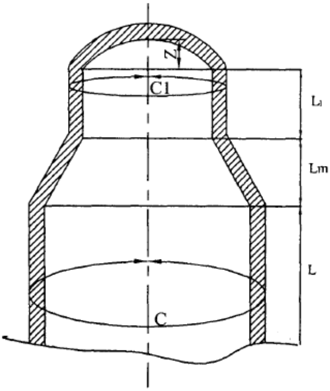
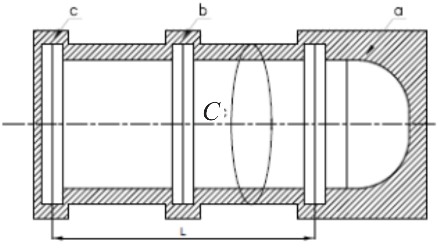
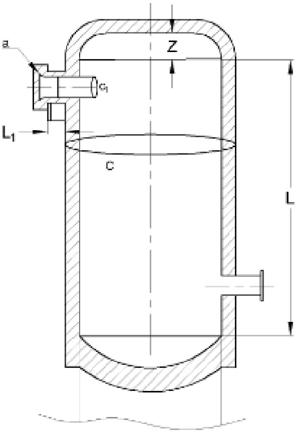
Where conditions of exposure are not very severe, low cost outer coverings such as jute canvas (weighing not less than 0.34 kg/m^2), cotton canvas (weighing not less than 0.27 kg/m^2) and scrim cloth (loose weave hessian weighing not less than 0.13 kg/m^2) may also be used.

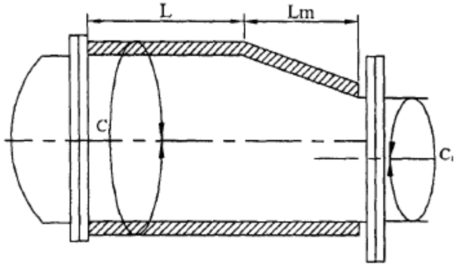
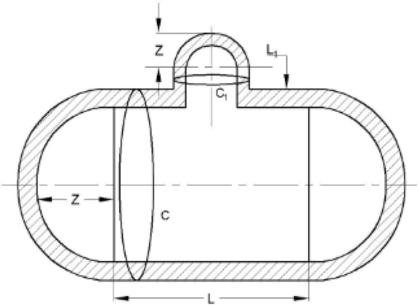
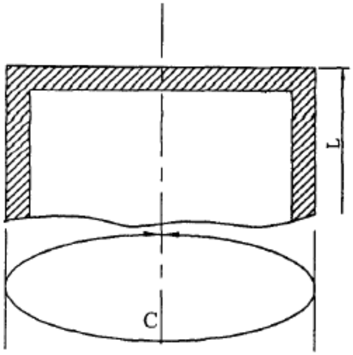
NOTE — **6.2.7** and **6.2.8** are generally associated with insulation for hot surfaces.

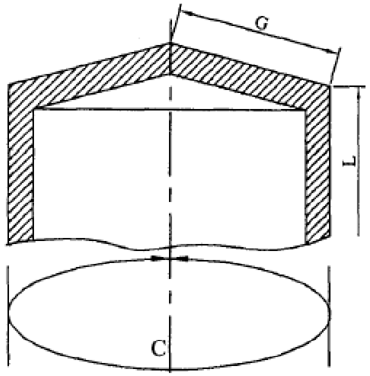
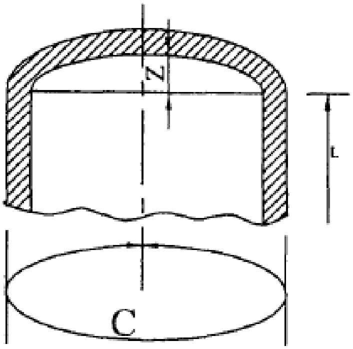
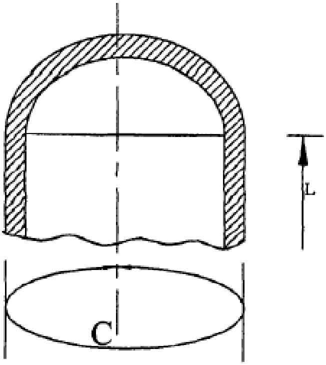
Price Group 2

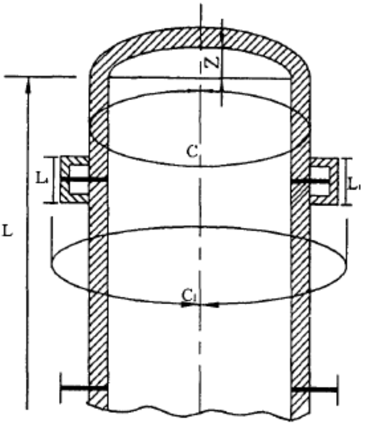
[*Page* 21-25, *clause* **9.2.1**] — Substitute the following table for the existing:

Typical Exemplifications		**Relevant Surfaces**
Fig. 13		CL
Fig. 14		$CL + \frac{\pi D^2}{4} Y$ $Y = 1.27$ where $Z < D/3$ and $Y = 1.75$ where $Z \geq D/3$
Fig. 15		$CL + \frac{\pi D^2}{2} Y$ $Y = 1.27$ where $Z < D/3$ and $Y = 1.75$ where $Z \geq D/3$
Fig. 16		$CL + \frac{\pi D^2}{2} Y$ $Y = 1.27$ where $Z < D/3$ and $Y = 1.75$ where $Z \geq D/3$

Typical Exemplifications		Relevant Surfaces
Fig. 17		$CL+\frac{C+C_1}{2}L_mY$ $+C_1L_1+\frac{\pi D_1^2}{4}Y_1$ $Y = 1.2$ and $Y_1 = 1.27$ where $Z < D/3$ and $Y_1 = 1.75$ where $Z \geq D/3$
Fig. 18		$C(L+X_a+X_b+X_c)$ where $X_a = 1$ $X_b = 0.5$ $X_c = 0.5$
Fig. 19		$CL+C_1(L_1+X_a)$ $+\frac{\pi D^2}{2}Y$ where $X_a = 0.5$ $Y = 1.27$ where $Z < D/3$ and $Y = 1.75$ where $Z \geq D/3$

Typical Exemplifications		Relevant Surfaces
Fig. 20	 	$CL + \frac{C + C_1}{2} L_m Y$ where $Y = 1.2$
Fig. 21	 	$CL + \frac{\pi D^2}{2} Y +$ $C_1 L_1 + \frac{\pi D^2}{4} Y$ $Y = 1.27$ where $Z < D/3$ and $Y = 1.75$ where $Z \geq D/3$
Fig. 22	 	$CL + \frac{\pi D^2}{4}$

Typical Exemplifications		**Relevant Surfaces**
Fig. 23		For G>3m: $CL+\pi G^2$ For G<3m: $CL+\pi G^2 Y$ where $Y = 1.5$
Fig. 24		$CL+\frac{\pi D^2}{4}Y$ $Y = 1.27$ where $Z < D/3$ and $Y = 1.75$ where $Z \geq D/3$
Fig. 25		$CL+\frac{\pi D^2}{4}Y$ where $Y = 1.27$

Typical Exemplifications		Relevant Surfaces
Fig. 26		$CL + \frac{\pi D^2}{4} Y$ $+ C_1 L_1 Y_1$ $Y_1 = 1.2$ and $Y = 1.27$ where $Z < D/3$ and $Y = 1.75$ where $Z \geq D/3$

[*Page* 26, *clause* **9.3.2.2**, *line* 4] — Insert ‘or Table 3, as applicable’ after ‘according to Table 2’.

[*Page* 26, Table 2] — Insert the following new table after Table 2.

Table 3 Conventional Equivalent Lengths for Other Parts, for Other Finishes

(*Clause* 9.3.2.2)

Sl No.	Insulated Fitting	Equivalent Length
(1)	(2)	(3)
i)	Valve/venturi/steam trap/strainers including flange and body (upto 300 mm size)	1.40 m
ii)	Valve/venturi/steam trap/strainers including flange and body (for sizes larger than 300 mm)	1.90 m
iii)	Pair of flanges including orifice plate and flanges	0.60 m

Table 3 (*Concluded*)

Sl No. (1)	**Insulated Fitting** (2)	**Equivalent Length** (3)
iv)	Bends and elbows	Twice the actual length, as measured along the center line of the piping or ducting
v)	Reducer	Actual length of larger size (along the center line of piping)
vi)	Tees	$2(D_1 + D_2)$; where D_1 and D_2 are insulated diameters of the two pipelines forming the tee
vii)	Any other special fitting	To be specified and measured separately on number basis

NOTE — Measurements of all valves, flanges and other fittings shall be based on actual content and then shall be converted into equivalent lengths of connected piping, to arrive at the total equivalent lengths of piping or ducting of various diameters. Fittings that connect two or more different sizes of piping/ducting shall be counted as part of the larger size.

(*Page* 28, *Fig*. 28, *Caption*) — Substitute ‘NB $\geq$ 50 mm’ *for* ‘NB $<$ 50 mm’.

(CHD 27)

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